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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,518	MIYATA ET AL.	
	Examiner	Art Unit	
	Christina Y. Leung	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 23 July 2008.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,3 and 5-17 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,3 and 5-17 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 3, 6, 14, and 15** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding **claims 3, 6, 14, and 15**, Applicant's specification does not appear to specifically disclose an embodiment of the invention including the elements and limitations recited in claim 3 and further wherein each variable wavelength laser is "selectively controlled to generate a different optical signals at *different wavelengths from the dropping signal*" (i.e., wavelengths that are specifically "different from" the dropping signal wavelengths). Applicant's specification on pages 14-18 and Figure 3, which discloses an embodiment of the invention including variable wavelength lasers, appears to specifically disclose that the variable wavelength lasers 62-64 are selectively controlled to generate optical signals at wavelengths that are the same as the wavelengths blocked by the blocking filter 531 (Applicant's specification, page 15, lines 35-37; page 16, lines 1-6). The specification does not appear to specifically disclose that each variable wavelength laser is "selectively controlled to generate a different optical signals at different wavelengths from the dropping signal." Examiner respectfully notes

that the specification on pages 14-18 and Figure 3 actually suggests that added wavelengths may be the *same* as the dropped wavelengths, not specifically selected to be different from them. The wavelengths inserted by the variable wavelength lasers are explicitly the same as the wavelengths that are blocked from passing at the blocking filter. Applicant further discloses that the blocked wavelengths include at least some of the dropped wavelengths, since the dropped wavelengths are the ones that are not part of the passing signal that passes through the blocking filter.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 5, 7-11, 13, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Egnell et al.** (US 6,590,681 B1) in view of **Johansson** (US 5,680,235 A) and **Sridhar** (US 5,778,118 A).

Regarding **claims 1, 5, and 7**, Egnell et al. disclose an optical transmission apparatus with an optical add/drop function used in an optical wavelength multiplex network (Figures 3 and 4), comprising:

an optical branching coupler (such as drop coupler 17e) that divides an input wavelength multiplexed optical signal into a wavelength multiplexed optical signal, which is called a passing signal, and another wavelength multiplexed optical signal, which is called a dropping signal;

a plurality of filters (BP filters 21 in Figure 3, or BP filters 37e in Figure 4) that extract a first plurality of optical signals from the dropping signal that is branched by the optical branching coupler, each filter extracting different optical signals at different wavelengths from the dropping signal that is branched by the optical branching coupler;

a plurality of fixed wavelength transmitters (transmitters 13) that generate a plurality of optical signals to be inserted, each fixed wavelength transmitter generating an optical signal at one of a plurality of preset wavelengths;

a coupler (multiplexer 25 in Figure 3, or multiplexer 35e in Figure 4) that bundles the plurality of optical signals generating by the fixed wavelength transmitters into a wavelength division multiplexed insertion signal;

a blocking filter (such as BB filters 31e) that blocks a wavelength division multiplexed optical signal contained in the passing signal that has the same wavelengths as the insertion signal; and

an optical coupler (such as add coupler 23e) that couples the passing signal with the insertion signal, the wavelengths of the blocked optical signal being the same as the wavelengths of the inserted optical signal (column 6, lines 5-67; column 7, lines 1-18).

Further regarding claim 1, Egnell et al. disclose a blocking filter and an optical coupler performing the functions of blocking, inserting, and coupling as recited in the claim, but they do not specifically disclose that the functions are performed by a rejection/add filter.

However, Johansson teaches a system that is related to the one described by Egnell et al. including an apparatus with a blocking/filtering function and an optical coupling function for adding and dropping wavelength division multiplexed signals in an optical communication

system (Figures 4d-4f). Johansson teaches one arrangement that is similar to the one already disclosed by Egnell, including blocking filters 56, 58, and 60 and a coupler 68 that couples a passing signal with an insertion signal (Figure 4f; column 9, lines 16-27). Johansson further teaches another arrangement including a rejection/add filter (i.e., acousto-optic transmission filter AOTF as shown in Figure 4d) that blocks a wavelength division multiplexed optical signal contained in the passing signal that has the same wavelengths as the insertion signal and couples the passing signal with the insertion signal, the wavelengths of the blocked optical signal being the same as the wavelengths of the inserted optical signal (Figure 4d; column 8, lines 56-67; column 9, lines 1-15).

Regarding claim 1, it would have been obvious to a person of ordinary skill in the art to use a rejection/add filter that blocks a wavelength division multiplexed optical signal and couples an insertion signal as taught by Johansson as the blocking filter and coupler in the system described by Egnell et al. in order to implement the blocking and inserting with an AOTF element that advantageously enables the plurality of blocked/inserted wavelengths to be flexibly selected as desired without constraint (Johansson, column 9, lines 8-15). It also would have been obvious to a person of ordinary skill in the art to substitute the rejection/add filter taught by Johansson for the blocking filters and coupler in the system disclosed by Egnell et al. to simply yield a predictable result of removing and inserting a plurality of desired wavelengths. Egnell et al. already teach providing these functions (using BB filters 31e and coupler 23e as shown in Figure 3, for example) and Johansson explicitly teaches that an arrangement similar to Egnell et al.'s, as shown in Figure 4f of Johansson, may be substituted by the rejection/add filter comprising the AOTF as shown in Figure 4d.

Regarding claim 5 in particular, Egnell et al. further disclose that the wavelength of the insertion signal generated by the fixed wavelength transmitter 13 are discriminately preset for the optical transmission apparatus such that the preset wavelengths of the insertion signal for the optical transmission apparatus are arranged to be different from wavelengths of a corresponding insertion signal for another optical transmission apparatus that is associated with the optical transmission apparatus, and the predetermined wavelengths of the dropping signal extracted by the filters (i.e., BP filters 21 in Figure 3, or BP filters 37e in Figure 4) are set for the optical transmission apparatus irrespective of wavelengths of a corresponding signal to be extracted by the other optical transmission apparatus (column 6, lines 25-67; column 7, lines 1-67; column 8, lines 1-5).

Further regarding claims 1 and also regarding claim 5, Egnell et al. disclose fixed wavelength transmitters 13 wherein a wavelength of the insertion signal generated by the fixed wavelength transmitter is fixed, but Egnell et al. do not explicitly disclose that they comprise lasers. However, optical transmitters comprising lasers are commonly known in the optical communications art. Sridhar teaches an apparatus with an optical add/drop function (Figure 1) that is related to the one disclosed by Egnell et al., and Sridhar further teaches optical transmitters comprising lasers 81-84 (column 6, lines 56-67; column 7, lines 1-7). It would have been obvious to a person of ordinary skill in the art to use lasers as taught by Sridhar as the transmitter in the system described by Egnell et al. in view of Johansson in order to effectively output optical signals having particular wavelengths using commonly available and known elements.

Further regarding claims 1 and 5, and also regarding claim 7, Egnell et al. also disclose a plurality of filters 21 or 37e, each filter extracting different optical signals at different wavelengths from the dropping signal that is branched by the optical branching coupler, but do not specifically disclose that they are variable wavelength filters. However, Sridhar further teaches variable wavelength filters 63A-63D, each filter controllable to selectively extract different optical signals at different wavelengths (column 5, lines 53-67; column 6, lines 1-37), wherein extraction wavelengths of the filters are capable of being arbitrarily set, and which are used in combination with fixed wavelength transmitters 81-84 like those already disclosed by Egnell et al.

Regarding claim 7 in particular, Egnell et al. do not specifically disclose that the filters are one or more of an AOTF, a dielectric multilayer filter, an FGB type filter, and a Fabry-Perot type filter. However, various types of wavelength filters are known in the optical communications art, and Sridhar teaches that variable wavelength filters 63A-63D may comprise FGB/Bragg grating type filters or Fabry-Perot type filters (column 5, lines 53-67; column 6, lines 1-37).

Regarding claims 1, 5, and 7, it would have been obvious to a person of ordinary skill in the art to use a variable wavelength filter comprising a FGB type filter or a Fabry-Perot type filter as suggested by Sridhar as the optical filter in the system described by Egnell et al. in view of Johansson in order to flexibly receive dropped signals having different wavelengths that may be arbitrarily set as desired in the communications network. Egnell et al. also already generally disclose filters extracting different wavelengths from the dropping signal.

Regarding **claim 8**, Egnell et al. further disclose that the system includes a protection unit that comprises an optical coupler (such as coupler 23w) and an optical switch (such as switch 33w). Specifically, Egnell et al. disclose that one of the lines (for example, the "e" path as shown in Figure 4) is a working line while the other line (for example, the "w" path) is a backup line used for protection switching (column 9, lines 37-53). When traffic is switched to the protection line, switches such as switch 33w are switched to direct traffic to the protection line, and the traffic is coupled into the protection line with couplers such as coupler 23w.

Regarding **claim 9**, Egnell et al. further disclose an optical wavelength multiplex network, comprising: the optical transmission apparatus as discussed above with regard to claim 1 and a double optical loop network that comprises a hub and two optical loops wherein the two loops are configured to transmit signals in opposite directions with respective to each other (Figure 1; column 2, lines 40-44; column 4, lines 16-49). Particularly, they disclose that one of the nodes may serve as a hub (column 11, lines 21-33).

Regarding **claim 10**, Egnell et al. disclose that the hub comprises an optical demultiplexer, an optical coupler, an optical switch, and an optical multiplexer. Since Egnell et al. disclose that one of the nodes in the network may serve as a hub, they disclose that a hub would comprise an optical demultiplexer such as BP filters 37e, an optical coupler such as coupler 17e, an optical switch such as switch 39e, and an optical multiplexer such as multiplexer 35e as shown in Figure 4 as part of a node.

Likewise, regarding **claims 11 and 13**, Egnell et al. disclose that a hub comprises an optical filter such as BB filters 31e as shown in Figure 4 as part of a node, and/or a protection unit that comprises an optical coupler such as coupler 23w and an optical switch such as switch

33w. As similarly discussed above with regard to claim 8, Egnell et al. disclose that one of the lines (for example, the "e" path as shown in Figure 4) is a working line while the other line (for example, the "w" path) is a backup line used for protection switching (column 9, lines 37-53). When traffic is switched to the protection line, switches such as switch 33w are switched to direct traffic to the protection line, and the traffic is coupled into the protection line with couplers such as coupler 23w.

Regarding **claim 16**, Egnell et al. disclose that the optical wavelength multiplex network is a loop-like network (Figure 1; column 2, lines 40-44; column 4, lines 16-49).

5. **Claims 3, 6, 14, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Egnell et al.** in view of **Johansson** and **Asahi** (US 6,195,186 B1).

Regarding **claims 3 and 6**, as well as the claims may be understood with respect to 35 U.S.C. 112 discussed above, Egnell et al. disclose an optical transmission apparatus with an optical add/drop function used in an optical wavelength multiplex network (Figures 3 and 4), comprising:

an optical branching coupler (such as drop coupler 17e) that divides an input wavelength multiplexed optical signal into a wavelength multiplexed optical signal, which is called a passing signal, and another wavelength multiplexed optical signal, which is called a dropping signal;

a plurality of fixed wavelength filters (BP filters 21 in Figure 3, or BP filters 37e in Figure 4) that extract a plurality of optical signals from the dropping signal that is branched by the optical branching coupler, each fixed wavelength filter extracting an optical signal at a predetermined wavelength from the dropping signal;

a plurality of transmitters 13 that generate a plurality of optical signals to be inserted, each transmitter provided to generate different optical signals at different wavelengths;

a coupler (multiplexer 25 in Figure 3, or multiplexer 35e in Figure 4) that bundles the plurality of optical signals generating by the transmitters into a wavelength division multiplexed insertion signal;

a blocking filter (such as BB filters 31e) that blocks a wavelength division multiplexed optical signal contained in the passing signal that has the same wavelengths as the insertion signal; and

an optical coupler (such as add coupler 23e) that couples the passing signal with the insertion signal, the wavelengths of the blocked optical signal being the same as the wavelengths of the inserted optical signal (column 6, lines 5-67; column 7, lines 1-18).

Further regarding claim 3, Egnell et al. disclose a blocking filter and an optical coupler performing the functions of blocking, inserting, and coupling as recited in the claim, but they do not specifically disclose that the functions are performed by a rejection/add filter.

However, Johansson teaches a system that is related to the one described by Egnell et al. including an apparatus with a blocking/filtering function and an optical coupling function for adding and dropping wavelength division multiplexed signals in an optical communication system (Figures 4d-4f). Johansson teaches one arrangement that is similar to the one already disclosed by Egnell, including blocking filters 56, 58, and 60 and a coupler 68 that couples a passing signal with an insertion signal (Figure 4f; column 9, lines 16-27). Johansson further teaches another arrangement including a rejection/add filter (i.e., acousto-optic transmission filter AOTF as shown in Figure 4d) that blocks a wavelength division multiplexed optical signal

contained in the passing signal that has the same wavelengths as the insertion signal and couples the passing signal with the insertion signal, the wavelengths of the blocked optical signal being the same as the wavelengths of the inserted optical signal (Figure 4d; column 8, lines 56-67; column 9, lines 1-15).

Regarding claim 3, it would have been obvious to a person of ordinary skill in the art to use a rejection/add filter that blocks a wavelength division multiplexed optical signal and couples an insertion signal as taught by Johansson as the blocking filter and coupler in the system described by Egnell et al. in order to implement the blocking and inserting with an AOTF element that advantageously enables the plurality of blocked/inserted wavelengths to be flexibly selected as desired without constraint (Johansson, column 9, lines 8-15). It also would have been obvious to a person of ordinary skill in the art to substitute the rejection/add filter taught by Johansson for the blocking filters and coupler in the system disclosed by Egnell et al. to simply yield a predictable result of removing and inserting a plurality of desired wavelengths. Egnell et al. already teach providing these functions (using BB filters 31e and coupler 23e as shown in Figure 3, for example) and Johansson explicitly teaches that an arrangement similar to Egnell et al.'s, as shown in Figure 4f of Johansson, may be substituted by the rejection/add filter comprising the AOTF as shown in Figure 4d.

Regarding claim 6 in particular, Egnell et al. disclose that the wavelength of the second optical signal generated by the transmitter 13 is discriminately preset for the optical transmission apparatus such that the preset wavelength of the second optical signal for the optical transmission apparatus is arranged to be different from a wavelength of a corresponding insertion signal for another optical transmission apparatus that is associated with the optical transmission apparatus,

and the predetermined wavelength of the first optical signal extracted by the fixed wavelength filter (BP filters 21 in Figure 3, or BP filters 37e in Figure 4) is set for the optical transmission apparatus irrespective of a wavelength of a corresponding signal to be extracted by the other optical transmission apparatus (column 6, lines 25-67; column 7, lines 1-67; column 8, lines 1-5).

Further regarding claim 3 and also regarding claim 6, as well as the claims may be understood with respect to 35 U.S.C. 112 discussed above, Egnell et al. disclose transmitters 13 but do not explicitly disclose that they comprise variable wavelength lasers. However, Asahi teaches an apparatus with an optical add/drop function (Figure 1) that is related to the one described by Egnell et al. in view of Johansson, and Asahi further teaches optical transmitters 301 comprising variable wavelength lasers, each variable wavelength laser selectively controlled to generate different optical signals at different wavelengths, that are used in combination with fixed wavelength receivers 302 like those already disclosed by Egnell et al. (column 3, lines 32-42 and lines 59-64; column 4, lines 63-67). Regarding claims 3 and 6, it would have been obvious to a person of ordinary skill in the art to specifically include a variable wavelength laser as taught by Asahi as the optical transmitter in the system already described by Egnell et al. in view of Johansson in order to flexibly transmit signals having various wavelengths as desired at different times during the operation of the communications network. Egnell et al. already generally disclose a plurality of transmitters 13 that generate a plurality of optical signals to be inserted, each transmitter provided to generate different optical signals at different wavelengths

6. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Egnell et al.** in view of **Johansson** and **Sridhar** as applied to claims 1 and 9 above, and further in view of **Adams et al.** (EP 1063803 A1).

Regarding **claim 12**, Egnell et al. in view of Johansson and Sridhar describe a system as discussed above with regard to claims 1 and 9 above including a hub. Egnell et al. further disclose that the hub comprises an optical demultiplexer such as BP filters 37e and an optical multiplexer such as multiplexer 35e as shown in Figure 4 as part of a node, but they do not specifically further disclose that the hub may comprise a MEMS.

However, Adams et al. teach a system that is related to the one described by Egnell et al. in view of Sridhar including an apparatus with an add/drop function in an optical network further including a ring structure and a hub (Figures 1 and 6). Adams et al. further teach that the hub may include a MEMS 650 (Figure 6; column 9, lines 38-58; column 10, lines 1-50).

It would have been obvious to a person of ordinary skill in the art to include a MEMS such as suggested by Adams et al. in the system described by Egnell et al. in view of Sridhar in order to flexibly direct certain wavelengths as desired (Adams et al., column 10, liens 18-38). Also, Examiner respectfully notes that Egnell et al. already disclose that the hub may comprise a switch such as switch 39e or 33w as shown in Figure 4 as part of a node, and Adams et al. also simply teach that MEMS are known types of optical switches. It also would have been obvious to a person of ordinary skill in the art to use a MEMS as suggested by Adams et al. as the switch already disclosed in the system described by Egnell et al. in view of Johansson and Sridhar as a way to implement the switch already disclosed by Egnell et al. that is advantageously small, low cost, and low power compared to other types of optical switches (Adams et al., column 10, lines 44-50).

7. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Egnell et al.** in view of **Johansson** and **Sridhar** as applied to claim 1 above, and further in view of **Persson et al.** (US 2002/0041411 A1).

Regarding **claim 17**, Egnell et al. in view of Johansson and Sridhar describe a system as discussed above with regard to claim 1 including a dropping signal and a passing signal. They do not specifically further teach a supervisory control signal extracting filter that extracts a supervisory control signal from the dropping signal; and a supervisory control signal insertion filter that inserts a supervisory control signal into the passing signal.

However, Persson et al. teach a system that is related to the one described by Egnell et al. in view of Johansson and Sridhar including an optical transmission apparatus with an optical add/drop function including a dropping signal (including signals dropped via drop filter 100) and a passing signal (including signals added via coupler 140; Figure 2). Persson et al. further teach a supervisory control signal extracting filter 110 that extracts a supervisory control signal λ_{OSC} from the dropping signal; and a supervisory control signal insertion filter 150 that inserts a supervisory control signal λ_{OSC} into the passing signal (page 2, paragraphs [0018] and [0021]-[0023]).

Regarding claim 17, it would have been obvious to a person of ordinary skill in the art to include supervisory control signal extracting and insertion filters as taught by Persson et al. in the system taught by Egnell et al. in view of Johansson and Sridhar in order to advantageously communicate a supervisory signal and provide monitoring and control information to and from nodes in the network.

Response to Arguments

8. Applicant's arguments filed 23 July 2008 have been fully considered but they are not persuasive.

Regarding claims 1, 5, 7-13, 16, and 17 in particular, Examiner respectfully disagrees with Applicant's assertion on page 6 of the response that "neither Sridhar, Egnall, nor Johannsson teach or suggest" the limitations recited in claim 1 including variable wavelength filters controllable to selectively extract different optical signals at different wavelengths from the dropping signal. As discussed in further detail above, Egnell et al. already disclose a plurality of filters 21 or 37e, each filter extracting different optical signals at different wavelengths from the dropping signal that is branched by the optical branching coupler, but do not specifically disclose that they are variable wavelength filters. However, Sridhar further teaches variable wavelength filters 63A-63D, each filter controllable to selectively extract different optical signals at different wavelengths (column 5, lines 53-67; column 6, lines 1-37), wherein extraction wavelengths of the filters are capable of being arbitrarily set, and which are used in combination with fixed wavelength transmitters 81-84 like those already disclosed by Egnell et al. It would have been obvious to a person of ordinary skill in the art to use a variable wavelength filter as suggested by Sridhar as the optical filter in the system described by Egnell et al. in view of Johansson in order to flexibly receive dropped signals having different wavelengths that may be arbitrarily set as desired in the communications network.

Regarding claims 3, 6, 14, and 15 in particular, as discussed in greater detail above, Examiner respectfully submits that Applicant's specification does not appear to specifically disclose an embodiment of the invention including the elements and limitations recited in claim 3

and further wherein each variable wavelength laser is "selectively controlled to generate a different optical signals at *different wavelengths from the dropping signal*" (i.e., wavelengths that are specifically "different from" the dropping signal wavelengths). Applicant's specification on pages 14-18 and Figure 3, which discloses an embodiment of the invention including variable wavelength lasers, appears to specifically disclose that the variable wavelength lasers 62-64 are selectively controlled to generate optical signals at wavelengths that are the same as the wavelengths blocked by the blocking filter 531 (Applicant's specification, page 15, lines 35-37; page 16, lines 1-6). The specification does not appear to specifically disclose that each variable wavelength laser is "selectively controlled to generate a different optical signals at different wavelengths from the dropping signal."

Further regarding claims 3, 6, 14, and 15, as well as the claims may be understood with respect to 35 U.S.C. 112 discussed above, Examiner respectfully submits that Egnell et al. in view of Johansson and Asahi suggest the limitations recited in the claims. Egnell et al. already generally disclose a plurality of transmitters 13 that generate a plurality of optical signals to be inserted, each transmitter provided to generate different optical signals at different wavelengths, but they do not explicitly disclose that they comprise variable wavelength lasers. However, Asahi teaches an apparatus with an optical add/drop function (Figure 1) that is related to the one described by Egnell et al. in view of Johansson, and Asahi further teaches optical transmitters 301 comprising variable wavelength lasers, each variable wavelength laser selectively controlled to generate different optical signals at different wavelengths, that are used in combination with fixed wavelength receivers 302 like those already disclosed by Egnell et al. (column 3, lines 32-42 and lines 59-64; column 4, lines 63-67). Although Asahi further teaches a system including

different wavelengths for different nodes (as noted by Applicant on page 7 of the response), Examiner respectfully notes that Asahi is relied upon for a teaching of providing variable wavelength lasers as optical transmitters in a communication system. Egnell et al. already generally disclose a plurality of transmitters 13 that generate a plurality of optical signals to be inserted, each transmitter provided to generate different optical signals at different wavelengths. It would have been obvious to a person of ordinary skill in the art to specifically include a variable wavelength laser as taught by Asahi as the optical transmitter in the system already described by Egnell et al. in view of Johansson in order to flexibly transmit signals having various wavelengths as desired at different times during the operation of the communications network.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung, whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christina Y. Leung/

Primary Examiner, Art Unit 2613